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Stinking Smut or Bunt of Wheat

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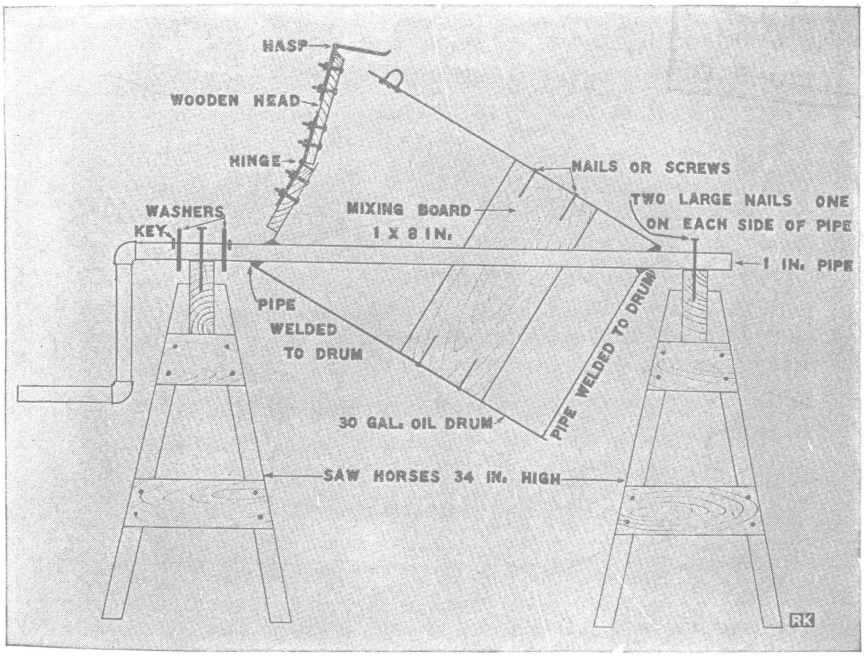
THE loss from stinking smut exceeds that of any other wheat disease in Ohio. From a careful survey of 61 Ohio counties made by the United States Department of Agriculture in 1933, it is estimated that 250,000 bushels of wheat were destroyed in this state by stinking smut. In addition to this, Ohio growers were docked two or three cents per bushel on approximately a million bushels because of the wheat having a smutty odor.

This is an expensive way to reduce the wheat crop, and decreases, rather than increases, the purchasing power of the Ohio wheat grower.



DETAILS OF CONSTRUCTION OF THE 30-GALLON DOUBLE-ACTING TREATING MACHINE

OHIO STATE UNIVERSITY AND THE UNITED STATES DEPARTMENT OF AGRICULTURE, COOPERATING
AGRICULTURAL COLLEGE EXTENSION SERVICE, H. C. RAMSOWER, DIRECTOR, COLUMBUS, OHIO
FREE—Cooperative Agricultural Extension Work—Acts of May 8 and June 30, 1914

How to Recognize Smutty Wheat

Smutted heads may be readily detected before the grain is mature by the bluish-green color in contrast to the yellowish-green cast of healthy heads. At harvest time infected plants stand stiffly erect, the chaffy parts of the heads are more spreading than in healthy ones, and the kernels are shorter, plumper, and darker in color than those of healthy wheat. If such heads are shelled in the hand a mass of black spores results, and the odor emitted is distinctly offensive. This same odor may be detected in the threshed grain if more than one-half of 1 per cent of the heads are smutty.

What Causes Smutty Wheat?

Wheat smut is caused by a fungus (*Tilletia laevis*) which grows into the seedling wheat plant before it emerges from the ground. The smut grows along with the wheat plant until flowering time, when it invades the embryo of the wheat flower. As a result a smut ball is produced in place of a wheat kernel. The chaff is not destroyed. At threshing time many of these smut balls are broken and the spores (seeds) cling to the healthy wheat grains. Unbroken smut balls also may be found in the threshed grain.

How Can Smutty Wheat Be Prevented?

Secure seed from smut free fields, if possible. If one is not certain that the seed is smut free it should be treated. Proceed as follows:

1. Clean the seed thoroughly to remove smut balls, chaff, shriveled seed, and weed seeds.
2. Place 1 bushel of grain in a seed treating machine similar to the one described in the accompanying illustration.
3. Scatter over this bushel of seed 2½ ounces of 50 per cent metallic copper carbonate; or 3 to 4 ounces of 20 per cent metallic copper carbonate. The higher grade is preferred.
4. Turn the drum 40 revolutions at the rate of 30 revolutions per minute. This treatment will insure each grain getting a proper coating of fungicide.
5. Sack the treated grain and sow any time thereafter.
6. If materials other than copper carbonate are used follow manufacturers' recommendations.

"CAUTIONS"

1. Do *not* feed treated grain to livestock, as copper carbonate is poisonous.

2. Wear a mask or a damp cloth tied over the nose and mouth while treating, or treat seed out-of-doors.

3. When sowing treated grain the drill should be thoroughly cleaned each evening. In the morning the feeder wheels should be tapped lightly and the feeding mechanism turned with a wrench before starting to sow. This will prevent breaking the drill, as the copper carbonate filters in through the cracks and crevices in the drill and will cake if allowed to become moist.